

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission)	
On Its Own Motion)	
)	
vs.)	ICC Docket No. 16-0376
)	
The Peoples Gas Light and Coke Company Investigation of)	
the Cost, Scope, Schedule and other Issues Related to the)	
Peoples Gas Light and Coke Company's Natural Gas)	
System Modernization Program and the Establishment of)	
Program Policies and Practices Pursuant to Sections 8-501)	
and 10-101 of the Public Utilities Act.)	

DIRECT TESTIMONY OF WILLIAM CHEAKS, JUNIOR
ON BEHALF OF THE CITY OF CHICAGO AND THE CITIZENS UTILITY BOARD

City-CUB Exhibit 1.0

October 11, 2016

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QUALIFICATIONS AND SUMMARY OF TESTIMONY

Q. What is your name and title?

A. My name is William Cheaks, Junior. I am Deputy Commissioner of the City of Chicago
("City") Department of Transportation ("CDOT") – Division of Infrastructure
Management ("DoIM"). I have been employed by the City for the past 10 years.

**Q. What are your training, experience, and education in the areas about which you will
testify?**

A. I have over 34 years of experience in the construction industry. In those 34 years, I have
served in many capacities and levels of construction operations and management. I have
worked as a Laborer, Survey Party Chief, Bridge Inspector, Construction Inspector, Earth

11 Work Superintendent for sewer, water, foundations, and site work, Project Manager and
12 Estimator. I also have been involved in a variety of types of projects, including utility
13 work, transportation, commercial constructions, foundations, and site work.
14 Projects I have worked on with the City and other employers include: the O'Hare
15 Extension of the Chicago Transit Authority's Blue Line; the Red Line Extension; the
16 Elgin/O'Hare Expressway; the Port Authority Train Yard in Harrison, New Jersey; the
17 Northeast Boundary Swirl Facility in Washington, D.C.; and the I-55/Weber Road
18 Interchange. In addition to infrastructure projects, my experience includes construction
19 work on: a Home Depot; Homan Square; a Cineplex Multi-Screen Theatre; Illinois
20 Institute of Technology Dormitories; and the University Center of Chicago Dormitories.
21 I attended Triton College for the Construction Technology program.

22 **Q. What are your duties at CDOT?**

23 **A.** My core responsibilities are providing management oversight for 100+ DoIM employees,
24 as well as the operations of its various organizational components. CDOT's DoIM
25 includes the Office of Underground Coordination ("OUC"), the Citizens Utility Alert
26 Network (widely known as "DIGGER"), the Public Way Permit Office, the Project
27 Coordination Office ("PCO") and Public Right-of-Way Enforcement. I established the
28 PCO from concept to implementation in late 2011 as an initiative to save all City Public
29 Way stakeholders money, time, and inconvenience.

30 Previously, I oversaw CDOT's Division of In-House Construction, from 2004 to 2008.
31 In that position, I was responsible for a \$50 million budget for infrastructure operations

and maintenance and for 500+ employees. The Division's maintenance activities included vaulted sidewalk repair, bridge repairs, pothole patching, and pavement markings. CDOT's construction programs included the City's Capital Improvement Program, which comprises the resurfacing of Chicago's public streets and alleys, along with the replacement of sidewalks, curbs, and gutters. I also implemented an inventory system for loss prevention.

Q. On whose behalf are you testifying today?

A. I am testifying on behalf of the City of Chicago and the Citizens Utility Board ("CUB").

Q. Have you testified before the Illinois Commerce Commission or any other court or administrative proceeding?

A. Yes, I have. I appeared as an expert witness in the Commission proceeding considering the acquisition of the parent company of The Peoples Gas Light and Coke Company ("PGL" or "Peoples"), the gas utility serving Chicago. That proceeding was designated Docket 14-0496. The Commission's Order approving the acquisition ("Reorganization Order") was conditioned on requirements ("Conditions") related to PGL's Accelerated Main Replacement Program ("AMRP"). The Commission subsequently opened a series of workshops addressing implementation of the AMRP conditions and other AMRP issues. Topics of special interest to the City were those concerning PGL's AMRP Public Way construction practices and the rate impacts of PGL's AMRP expenditures. I participated, as a City representative, in those Commission Staff-led workshops. The Commission Staff prepared a report to the Commission on the workshops ("Staff

Report”), which was the Commission’s basis for the Initiating and Interim Order (“Interim Order”) opening this proceeding.

Q. What is the purpose of your testimony in this proceeding?

A. On behalf of the City and CUB, I reviewed the visible changes PGL made to its Accelerated Main Replacement Program (“AMRP”) and the results of the revised program’s implementation. Those revised practices appear to be elements of PGL’s proposed System Modernization Program (“SMP”)¹ procedures. To the extent allowed by available time and data, I evaluated the effectiveness of PGL’s construction and construction management revisions, especially as they affect CDOT operations and City residents. In that assessment, I gave particular attention to Peoples’ performance under its revised procedures during the current (2016) construction season. In addition, I evaluated the AMRP/SMP reporting requirements that PGL proposes in Mr. Hesselbach’s testimony (PGL Ex. 1.0). This testimony presents my conclusions from those assessments, as well as observations about PGL’s implementation of its AMRP/SMP.

Q. What are your principal observations and conclusions?

A. The major observations and conclusions my testimony support are the following.

(1) CDOT’s ability to assess PGL’s performance under its new practices is hampered by a lack of meaningful performance metrics reporting. Effective metrics and

¹ Because PGL’s AMRP is encompassed by PGL’s proposed (but not yet approved) SMP, and because AMRP activities may span the pre-transition and post-transition periods on either side of PGL’s proposed transition to SMP, the combined programs are referred to as “AMRP/SMP, unless the timing clearly indicates a specific program.

reporting are necessary (for both the Commission and stakeholders) in assessing PGL's performance during the most costly infrastructure program in the utility's history.

(2) Based on the available information, PGL's AMRP/SMP implementation performance, under the program revisions made to date, has improved in a few specific areas, but overall remains below an acceptable long-term level of performance.

(3) The content of PGL's proposed monitoring and reporting regime is too sparse to be useful, and it reverses the Interim Order's movement toward significant improvements in the collection of meaningful performance and oversight metrics and in regular, transparent reporting and review. The City recommends an appropriate program of data collection and reporting.

Q. How is your testimony organized?

A. First, I summarize previous Commission activity regarding PGL's AMRP implementation in Chicago, to describe the context of, and the bases, for my assessments of PGL's plans and performance. Second, I present my review of PGL's performance during the 2016 construction season under its revised AMRP/SMP plans and approach. I include descriptions of my evaluation process and the (quantitative and qualitative) conclusions of my assessments. Third, I discuss the monitoring, metrics, and reporting that can be effective for (a) monitoring and coordinating the activities of Public Way users, (b) guiding efficient and cost-effective AMRP/SMP implementation, (c) providing information for identifying and making implementation corrections, as appropriate to mitigate impacts on Public Way management, City residents' quality of life, and

ratepayers' gas bills. Finally, I summarize the AMRP/SMP recommendations developed in my testimony in this proceeding.

Q. Are you sponsoring any exhibits as part of your direct testimony?

A. Yes, I am sponsoring the following exhibits, which I refer to in testimony using the exhibit numbers shown.

- | | |
|--------------------|--|
| • City-CUB Ex. 1.1 | Direct Testimony of W. Cheaks, Jr. in ICC Dkt. 14-0496 |
| • City-CUB Ex. 1.2 | People Gas Ticket Count (Citations &Fines) |
| • City-CUB Ex. 1.3 | Capital Permits Narratives |
| • City-CUB Ex. 1.4 | PGL Permit Carry-Overs |
| • City-CUB Ex. 1.5 | Excerpt -- Liberty Final Report, Chap. V (Reporting) |
| • City-CUB Ex. 1.6 | City's Recommended Reporting Requirements |

BACKGROUND / CONTEXT

Q. What is the AMRP/SMP being reviewed in this proceeding?

A. PGL's AMRP is an acceleration of routine main replacement. The acceleration, which began in 2011, focused main replacement efforts on certain type of pipes that are deemed particularly vulnerable -- specifically, cast iron and ductile iron pipes. That vulnerability was the basis for the accelerated construction program. The original program, as outlined to and approved by the Commission, was to be completed over a period of about 20 years, at a cost estimated at around \$2 billion. In addition to the replacement of vulnerable mains, the AMRP included upgrading the distribution system from low to

medium pressure and relocation of inside gas meters to the outside of customer premises. In this proceeding, PGL has proposed an expanded infrastructure program that it calls its System Modernization Program. The SMP encompasses the AMRP's scope, but also encompasses other categories of plant investment that can be recovered under PGL's Rider QIP, and the AMRP's focused objective of replacing PGL's riskiest pipes does not appear to be the only driver of the reconstituted infrastructure program. PGL Ex. 1.0, pp. 3 (n.1) and 13.

Q. What is your understanding of the purpose of this Commission proceeding?

A. According to the Interim Order, this proceeding was opened "to investigate the cost, scope, schedule and other issues related to the Peoples Gas Light and Coke Company's natural gas system modernization program and the establishment of Program policies and practices." Interim Order, p. 2. As I understand those objectives, PGL's present and future plans, policies/practices, and implementation performance will be reviewed and revised in this case. In fact, PGL itself has proposed very significant changes to important aspects of its AMRP. Some of those changes were implemented as part of the utility's 2016 Plan, which was first described in PGL's November 15, 2015 compliance filing on Condition 5 of the Commission's Reorganization Order. PGL-City DRR 2.33. PGL's SMP proposal is presented in the direct testimony of Mr. Hesselbach. PGL Ex. 1.0, pp. 13-17. CDOT is participating in the Commission's investigation by providing updated (from Docket 14-0496) first-hand accounts of PGL's implementation performance and recommending specific requirements for inclusion in any program the Commission approves.

140 **Q. Have PGL’s AMRP plans and performance been reviewed before in Commission**
141 **proceedings?**

142 **A.** Yes. On at least two occasions, the Commission has been directly involved in a review
143 of PGL’s implementation of some version of the AMRP. First, the Commission
144 responded to concerns that PGL’s early AMRP efforts had accomplished little and been
145 mismanaged by ordering an audit of the program. For that audit, the Commission
146 engaged Liberty Consulting Group (“Liberty Consulting”), which is now performing the
147 second (implementation monitoring) phase of its audit. Second, the Commission was
148 compelled to review the program in the PGL Reorganization proceeding, where
149 stakeholders raised concerns that (among other things) the program was poorly
150 implemented, and that loss of local ownership and control would exacerbate PGL’s
151 troublesome AMRP performance history. Other implementation issues included the rate
152 impacts of cost inefficiencies observed in PGL’s AMRP construction. In its Phase One
153 Final Report, (May 2015), Liberty Consulting confirmed that problems with PGL’s
154 AMRP planning, construction management, and actual construction practices that were
155 identified in Docket 14-0496 had persisted through that date. Final Report on Phase One
156 of an Investigation of PGL’s AMRP, May 5, 2015 (“Liberty Final Report”).

157 **Q. Are the findings of the Liberty Final Report still relevant more than a year later, as**
158 **the Commission looks at a yet another version of the program from PGL?**

159 **A.** Unfortunately, it appears that they are. In the subsequent period of more than a year
160 (May 2015-Sep 2016), PGL revised certain aspects of its management structure and

161 policies, then began construction activity under revised practices in the current
162 construction season. As I discuss in the following section of this testimony, PGL's
163 implementation performance during this 2016 construction season shows that significant
164 problems persist. PGL's activities have apparently been conducted under a combination
165 of PGL post-Reorganization AMRP revisions, responses to the Reorganization Order
166 Conditions, and the proposed new SMP scope. CDOT's observations of PGL's on-the-
167 ground construction management performance identified areas that remain in need of
168 improvement, including aspects of its coordination with the City and other Public Way
169 users, PGL's capacity to meet planned construction schedules, and costly inefficiencies
170 that could adversely affect PGL ratepayers).

171 **Q. Could the bills of Chicago residents be affected by costs associated with inefficient**
172 **construction work or redundant costs due to poor quality work PGL's AMRP/SMP**
173 **implementation?**

174 **A.** It is my understanding that unless such costs are successfully challenged in rate
175 proceedings, they could be included in PGL's rates. CDOT continues to see (too
176 frequently) instances of AMRP work that must be revised on the fly or redone because of
177 poorly coordinated, non-compliant, or poor quality work. Expenditures for such remedial
178 work (and their costs) could be reduced or eliminated by improving identified
179 implementation deficiencies. The costs of having to correct poor work or other avoidable
180 inefficiencies are not reasonably imposed on Chicago residents. Instead, improved
181 coordination and competent construction performance should be minimum requirements
182 of cost-effective implementation. That could yield cost saving opportunities for PGL

(and ratepayers) and avoid imposing costs of planning revisions, rescheduled construction, and redundant permitting on CDOT (Chicago taxpayers) and other public way users.

Q. When did CDOT begin its involvement with PGL's AMRP/SMP?

A. CDOT's direct involvement with PGL's main replacement work began before it was formalized as the AMRP. CDOT is responsible for the maintenance and capital rehabilitation of Chicago's transportation infrastructure, which includes over 4,000 miles of public streets. CDOT actively manages this infrastructure, to coordinate the safe and efficient movement of pedestrians, cyclists, and vehicles within the Public Way and the construction activities of permitted users of Chicago's Public Ways. PGL is one of the Public Way users for which CDOT has historically approved and coordinated proposed construction activity. CDOT's oversight, which is meant to protect the Public Way for permitted uses and to prevent abuses by users, is conducted mainly through its permitting process and the enforcement of applicable CDOT regulations. These are the City's principal processes for efficient coordination of construction work in, on, or under City streets, while avoiding disruption of public use, unnecessary or repeated street cuts, and wasteful construction expenditures by the City and other users of Public Ways.

Shortly after the AMRP's acceleration of PGL's main replacements, CDOT experienced difficulties coordinating PGL's activities with those of the City and other users of Public Ways, and PGL's handling of its more demanding workload became problematic for the City. In 2014, the proposed Reorganization of PGL's parent company raised concerns

204 that the problems CDOT was experiencing might worsen under non-local ownership.
205 The then existing problems and the City's new concerns prompted my testimony in the
206 Commission proceeding considering PGL's reorganization.

207 My direct testimony in Docket 14-0496 discussed and documented in detail the problems
208 resulting from PGL's increased construction activity. (Also, summary slides on selected
209 topics were a part of a City workshops presentation. Staff Report, App. E.) I have
210 included my prior testimony as Exhibit 1.1 accompanying this testimony. The
211 background information on CDOT's role and activities, and on the PGL-specific
212 problems CDOT experienced, remain accurate. The performance metrics reported are a
213 snapshot of circumstances at the time that testimony was provided (Winter 2014). That
214 baseline information can be valuable as the Commission develops a meaningful long-
215 term plan and effective oversight mechanisms. My assessments of PGL's more recent
216 performance (in this testimony), examine the results of PGL's revised practices and
217 update certain performance data from Docket 14-0496.

218 **Q. How has the City continued its involvement in the oversight of PGL's AMRP/SMP**
219 **infrastructure program implementation since the Commission approved the PGL**
220 **reorganization?**

221 **A.** The Commission's approval Conditions called for the City's involvement in PGL's
222 AMRP implementation in several areas. The City has acted diligently to give effect to
223 the Commission's directives. Improving PGL's coordination with CDOT was a specific

requirement of the approval order, intended to address weaknesses identified in City testimony and the Liberty Final Report.

Condition 7 -- WEC Energy Group will carefully review the results of the Commission's audit of the Peoples Gas AMRP and will ensure that Peoples Gas works to coordinate with the City of Chicago in the execution of the AMRP. Reorganization Order, App. A p. 2

Similarly, the Commission's Reorganization Order recognized the importance of PGL's participation (with all other OUC users) in the use of CDOT's dotMaps planning and performance tracking platform.

Condition 40 --The Joint Applicants will continue investigating whether and to what extent it is possible for the Gas Companies to participate in the Chicago Department of Transportation's dotMaps website. Reorganization Order, App. A p. 6

The dotMaps tool provides real time planning information from all authorized users to all other authorized users regarding projects (designed, legacy, and future), permits, moratoriums, and special events (parades, runs, block parties, etc.) and assets (pavement condition, etc.) in the Public Way. Proper and more frequent documentation of project status in dotMaps provides data for a variety of performance, coordination, and oversight metrics.

As CDOT did before the Reorganization Order, CDOT has continued to work with PGL in its AMRP/SMP construction work. The City has engaged directly with PGL to design communications, planning, and information sharing procedures that put the Commission's directives into action. The joint efforts of PGL and the City included agreed revisions to both PGL and CDOT processes, so that PGL's AMRP/SMP work could be performed more efficiently, for the benefit of PGL, the City, and Chicago

residents/ratepayers. The City also participated in a series of Commission-ordered, Staff-led workshops that reviewed PGL's implementation of the Conditions and the AMRP/SMP plan, and where stakeholders identified remaining issues. The City participated fully and made recommendations to address AMRP/SMP-related issues raised in stakeholder discussions or in Staff's requests for comments on specific issues.

Q. Describe the City's collaboration with PGL on revised protocols for CDOT's interactions with PGL, to improve communications, cooperation, and the efficiency of construction activities.

A. Over a period of several months, representatives of the City and PGL met repeatedly to discuss what each side needed from the other to efficiently perform its tasks, to propose and discuss possible solutions, and finally to agree on a set of procedures and information exchanges that address identified issues with PGL's AMRP/SMP implementation. Among the issues addressed directly by City-PGL agreements were communications, permit compliance, reporting, coordination, and construction planning.

Q. What were the communication problems the City-PGL discussions are intended to resolve?

A. PGL has acknowledged that coordination with the City, at various levels, was unsatisfactory, and that it affected AMRP/SMP implementation schedules. One element of that dysfunction was PGL's failure to fully use the dotMaps platform to share planning, coordination, permitting, and project progress information with the City and other Public Way users. CDOT conducted special meetings with PGL (in addition to

271 regularly scheduled coordination meetings among Public Way users) to close some of the
272 resulting planning and permitting gaps.

273 **Q. Can you describe how communications channels have been changed to improve**
274 **planning and coordination?**

275 **A.** The changes in how we communicate have come through a commitment by both parties
276 to a modified slate of coordination meetings between City and PGL personnel at all levels
277 of management for both AMRP/SMP and O&M construction activities, and through
278 PGL's commitment to integrate dotMaps more fully into its internal planning and
279 construction processes. CDOT's previous slate of PGL meetings (which was already
280 enhanced) was formalized, with Monthly sessions focused on specific operational and
281 policy issues and other topics (e.g., pilot programs) and with regular upper management
282 meetings to review the effectiveness of the changes made and to resolve any persistent
283 problems. Coordination would be aided by more complete and timely operational
284 performance reporting, both through the dotMaps platform and supplemental reports.
285 CDOT also has offered dotMaps training to PGL management and planning personnel,
286 along with expanded access to dotMaps by PGL personnel. While communications and
287 coordination are not at the level CDOT would like to achieve, there has been a noticeable
288 improvement in the lines of communication as a result of these joint City-PGL efforts.

289 **Q Could you summarize the permitting and permit compliance issues the City and**
290 **PGL addressed in their discussions?**

291 **A.** Every opening or activity in the Public Way requires a Public Way Permit from CDOT.
292 A proper permit must be obtained before any work in the public way begins. The permit
293 specifies coordinated dates for the permitted activity. The Public Way activity cannot
294 begin before the authorized period, it must be completed by the end of the permit period,
295 and it must be performed in accordance with the permit terms. As summarized in my
296 testimony in Docket 14-0496, PGL had a poor performance history regarding compliance
297 with CDOT's established permitting processes. Untimely permit applications strongly
298 suggested gaps in detailed advance planning, which required CDOT to redirect scarce
299 resources to resolve PGL permitting issues, above the level justified by the increased
300 number of AMRP permits. PGL also had failed to keep permitted street activity within
301 the authorized time periods -- constraints the City and other users relied on to coordinate
302 their own activities. PGL's inability to meet planned schedules often required permit
303 extensions or remedial work, which complicated CDOT's work load and affected the
304 scheduled activity of other users. Other users' costs from rescheduling their planned
305 activities due to PGL's violations had to be absorbed by those users. Aside from the
306 difficulties this caused for CDOT and other users, PGL regularly incurred thousands of
307 dollars per month in fines and penalties and additional fees. City-CUB Ex. 1.1, line 552.

308 **Q.** **How have the City and PGL agreed to address the permitting compliance issues?**

309 **A.** Using dotMaps in the planning process should improve PGL's awareness of sequencing
310 requirements for timely permit issuances, and updating dotMaps with project progress
311 data will allow dotMaps to flag conflicts with other planned and permitted projects and
312 moratoriums in the same or another affected location. The City and PGL have agreed on

an initiative to augment the CDOT resources devoted to AMRP/SMP permitting to help assure timely issuance of needed permits and CDOT is in the process of implementing this initiative. As I discuss later, results in this area have not yet met expectations.

Q. How did PGL and the City deal with the City's need for improved performance reporting?

A. The City has consistently called for more meaningful collection and reporting of construction performance metrics and project oversight data. Like the Commission, CDOT has responsibilities that cannot be fulfilled without reliable information on what activity is occurring and the quality of the performance under observation. The most efficient way to collect that data and to share it for analysis and oversight is for PGL to record it as the work is done. Neither the Commission nor CDOT can feasibly watch every element of PGL's work; even if the resources were available, such redundant efforts would be wasteful. Meaningful metrics reporting also is essential to efficient management of a program as large and long-lasting as PGL's AMRP/SMP. PGL and the City agreed on an enhanced slate of performance reports, to augment the reporting ordered by the Commission. The City's proposed requirements in this docket go a bit further, to meet needs CDOT identified in evaluating results of PGL's recent implantation changes. The proposal is consistent with the recommendations of Liberty Consulting, which identified PGL's lack of pertinent information as one of the hurdles to more efficient management of AMRP planning and construction. Liberty Final Report, pp. B-8, 9, 15.

334 **Q. What have been the results of the changes you have discussed?**

335 **A.** Overall, based on the data available for an evaluation, the improvements in PGL's
336 AMRP/SMP performance are apparent but they have been uneven and slower than
337 hoped, even when one considers that this is PGL's first construction season using the
338 revised practices. The details of my evaluation of PGL's performance in the 2016
339 construction season are presented in the following section of this testimony.

340 **PGL PERFORMANCE -- 2016 CONSTRUCTION SEASON**

341 **Q. What has been PGL's historical level of performance in its AMRP implementation?**

342 **A.** I recounted CDOT's experience with PGL's early implementation of its AMRP in my
343 testimony in PGL's 2014 Reorganization case. City-CUB Ex. 1.1. That testimony
344 provided considerable data and detailed descriptions of PGL's pre-Reorganization AMRP
345 performance. That pre-Reorganization period is the baseline I used in assessing the
346 utility's performance for this proceeding. I reviewed CDOT's experience with PGL's
347 recent AMRP/SMP implementation to evaluate on-the-ground results of the evolution of
348 PGL's AMRP/SMP practices and of PGL's efforts to improve its implementation. The
349 Commission's sharpened focus in this case -- defining the program's scope, policies and
350 practices, and monitoring/reporting protocols -- redirected CDOT's focus as well.
351 Interim Order, p. 2. Accordingly, my evaluation of PGL's implementation was slightly
352 different from the assessment I presented in the Reorganization proceeding. In the prior
353 case, the City's priority was to make the Commission aware that there were real problems
354 with PGL's AMRP implementation, and that those problems required regulatory
355 attention. In this case, we followed the Commission's lead and took a step beyond

determining whether there are problems. CDOT tried to assess the results of PGL's implementation of the Conditions and the revised approach PGL first described late in 2015. Our specific focus was to identify strengths and problem areas with specificity, and to prescribe corrective actions, where possible. So, my testimony here is not an updated replication of my prior assessment.

Q. Have you been able to determine whether the changes ordered by the Reorganization Order produced improvements in PGL's AMRP/SMP implementation performance during the 2016 construction season?

A. I have reached some conclusions that have modified the "wait and see" posture I have taken about the effectiveness of PGL's program changes. However, our AMRP/SMP assessment in this case was more difficult than merely demonstrating the existence and severity of PGL's AMRP implementation problems. One of the principal difficulties in reaching more refined conclusions was the lack of meaningful performance data. Our assessment efforts confirmed the observations of Liberty Consulting that PGL did not collect or report performance data in a way that supports meaningful construction management and oversight. Liberty Final Phase One, p. V-1. Another problem is the absence of standard report formats and contents that PGL uses consistently across time, as well as within its organization and in communications with outside agencies. Performance assessments, which must look across time, are very difficult without the benchmarks provided by consistently reported performance data.

Based on the available performance data and CDOT's experience, I believe there has been some improvement in PGL's AMRP/SMP performance. However, some of the problems I identified in Docket 14-0496 and in the AMRP workshops persist. In 2016, PGL's difficulties in timely completing projects -- as indicated in submitted plans, requested permits, and in compliance with applicable CDOT regulations -- remains a broad theme pointing to more specific concerns that I describe in detail in this testimony. Overall, PGL's operational discipline and cost efficiency are not where I had hoped they would be. PGL's current level of performance would not be acceptable over the long period of AMRP/SMP implementation. Even in the short term, the volume of recurring missteps complicates CDOT's construction coordination.

Q. What sort of complications does CDOT encounter because of poor data collection, data management, and performance tracking?

A. One situation at the center of CDOT's permit administration illustrates the impact of poor data management and performance tracking. In their July 2016 Fourth Quarterly Recommendation Implementation Monitoring Report ("Liberty Fourth Monitoring Report"), the Commission's auditors reported that PGL had established a Capital Permits Coordinator position with responsibilities that included weekly tracking of permits requests and issued. Liberty Fourth Monitoring Report, p. 63. Evidently, that new organization has not yet reached full efficiency. For instance, recently PGL and CDOT spent several weeks resolving a permit request for sidewalk work covered by a prior permit, but not completed within the allowed period. (The original permit completion date avoided street openings during the nearby Taste of Greektown event the following

day.) Despite the availability of a (jointly maintained) spreadsheet (which CDOT developed specifically to track PGL's permits), regular tracking sheet updates, and routine City-PGL meetings, the permit was held while CDOT tried to sort through conflicting information from PGL's permit administrators. Although there were several weekly meetings and tracking sheet updates to address emergent issues (a permittee's responsibility), the history of this extension included the following miscues:

\$ the extension was not requested until after the original permit period had expired, without notification of a need for additional time;

\$ the permit was not included in the tracking sheet until after the permit extension had been granted, when the extension was listed as a new permit;

\$ the extension request was for work in the street and on private property (which CDOT does not regulate), not unfinished sidewalk work;

\$ the location provided in the extension request was the building address, not the address on the building's side street for which the original permit was issued and where PGL was conducting the work;

\$ after CDOT negotiated with other users active in that area to clear the extension, the 14-day extension expired, without notification to CDOT that even more time was needed;

\$ PGL sought -- and was granted -- a second extension.

Through the first quarters of 2016, CDOT has reviewed user applications for, and issued, more than 106,000 permits. PGL permits accounts for approximately 20% of that number. Although most PGL permits do not involve labor-intensive resolution efforts like that described above, exceptional PGL permitting events that require non-routine intervention occur often (and in volumes) enough to be problematic. City-CUB Exhibit 1.3 describes several similar PGL permit issues that CDOT encountered in just the last two months (Aug-Sep 2016). CDOT does not have the resources to handle the nearly

impossible tasks of sorting out conflicting information from PGL personnel and tracking improperly described permit PGL requests, especially given the number of requests. It is not fair or efficient to shift, to CDOT, a management burden that properly rests with permit applicants.

Q. Were there specific available data that you used to assess whether, or how much, PGL's performance had improved?

A. As I noted earlier, Public Way permits define all projects overseen by CDOT. Performance within the terms of the applicable permit is a standard CDOT uses to track and to assess construction performance. CDOT routinely inspects work in progress and completed projects to carry out its enforcement responsibilities. Citations and the resulting fines and penalties are quantitative indicators of compliance with City ordinances and CDOT's Rules and Regulations. Analysis of that data can identify problems that may be related to poor planning or flawed scheduling (failure to complete projects within the permit period), to poor quality control (re-permitting for remediation or citations), or to capability or resource deficiencies (repeated permit extensions, frequent schedule adjustments, permit carry-overs). CDOT can only describe the impacts of Public Way users' planning and construction actions on the City's public way management role. In most cases, CDOT cannot proactively determine or track the *causes* of disruptions to its processes and coordination planning. Only PGL can collect and report the information needed to perform root analyses of its performance issues, to provide meaningful information to guide program revisions and for oversight of AMRP/SMP implementation efficiency and cost-effectiveness. PGL should be required

447 to report appropriate performance metrics, as proposed here, throughout the
448 implementation of PGL's AMRP/SMP. (At the very least, the reporting must be
449 maintained until PGL's implementation operations become more routine, and no longer
450 require excessive non-routine CDOT interventions, citations, or fines and penalties.
451 Through the third quarter of 2016, PGL operations have received citations for more than
452 600 violations and fines of more than \$500,000. City-CUB Ex.1.2 lists the PGL citations
453 and fines for the first nine months of this year. Those data are not enough to determine
454 the causes of the violations or to find any patterns that identify a correctable problem in
455 PGL's construction management or internal processes. PGL can (and should) perform
456 those analyses (e.g., planned versus actual schedule).

457 **Q. Please explain your efforts to assess the practical impacts of the changes PGL has**
458 **implemented in its AMRP/SMP construction and management practices.**

459 **A.** CDOT examined PGL's performance from the perspective of its public way management
460 operations, using data from those processes. The additional data required by the Interim
461 Order was also useful for oversight of program performance, though it did not provide
462 the insights that would come from a longer period of consistent metrics reporting. At the
463 highest level, CDOT evaluated PGL's 2016 work against the baseline of its pre-
464 modification activity. PGL provides a baseline schedule for its Capital Improvement
465 Plan (CIP) work in each calendar year. CDOT evaluates the calendar year program
466 against the provided CIP in the previous year. Are the plan goals reasonable in light of
467 actual performance in the prior year? Do the work plan and schedule provide continuity
468 from the prior year? Using the CIP and permit data from CDOT's Public Way

management processes allowed the City to track the efficiency of PGL's progress through its plan (looking, for example, at permit extensions and new permits for unfinished projects). The permit tracking sheet CDOT maintains jointly with PGL, CDOT's routine field observations of in-progress and completed work, and complaints to Chicago's 311 system about construction-related quality of life issues also are key indicators.

CDOT's assessment effort encountered some hurdles that made definitive conclusions about problem causes and remedies difficult. In addition to the problem of inadequate performance metrics and reports, our attempts to assess PGL's performance comprehensively also were constrained by the schedule in this docket. The schedule is tight, and it coincides with the busiest portion of CDOT's year and with PGL's first construction season under its new approach. CDOT had to perform its review within those constraints.

Q. What were the results of your examination of the accessible aspects of PGL's construction activity?

A. A major problem that CDOT continues to see on PGL projects is non-compliant construction or poor quality performance from PGL's contractors. From CDOT's perspective, we cannot determine whether the root causes are contractor selection, contractor quality control, field management deficiencies, or some other item. PGL states that it has focused on restructuring its contracts to align contractors' incentives with AMRP/SMP goals. PGL Ex. 1.0, pp. 24-25. CDOT's observation of contractors' performance in 2016 does not yet indicate adequate results from those changes. Because

CDOT cannot collect the performance metrics needed for probing analyses of each public way user's activity, our review was limited to data from CDOT processes and observations that identify recurring events. For example, within the last 30 days, a PGL contractor dug out a trench for PGL work and failed to secure the opening. The unsecured trench prevented emergency response vehicles from exiting an adjacent fire station. That was a clear violation of CDOT's regulations (even away from fire stations), and it was not this contractor's first quality control (QC) issue or an unusual instance of a QC problem with a PGL contractor.

Q. Where did you see the most significant changes in PGL's public way construction activity?

A. The most noticeable improvements have been in PGL-City communications about those activities. CDOT and PGL have established clear channels of communication at multiple levels of our organizations. Problems still arise, but now they can be addressed more quickly, and each party has a better understanding of the operational needs of the other. Even without use of the escalation process we set up, response times and the quality of responses from PGL have improved at the management level. However, we are still at a stage where communication is too reactive (problem solving) and not proactive (problem prevention). For example, the necessary exchange of planning information (mainly timely, comprehensive input information from PGL) still does not reflect the level of planning information transparency (through dotMaps information and updates) the City hopes PGL will achieve.

Q. Is better PGL usage of CDOT's dotMaps tool an element of the communications improvements you have observed?

A. Yes, it is, but the continuing transition process at PGL is still visible. CDOT provided, at PGL's request, access for 132 named individuals. CDOT has granted access to all PGL construction planning personnel PGL identified as integral to effective dotMaps use or as needing access for internal planning. PGL's integration of the tool in its planning, or PGL's coordination of any parallel planning process, has not been seamless and CDOT does not fully understand how and to what extent PGL has integrated dotMaps into its internal planning and management processes. Certain deficiencies in the completeness and timeliness of PGL planning information reflect caution in integrating the platform into various aspects of its planning processes. CDOT continues to work with PGL on identifying refinements (of tools and procedures) that will facilitate timely and better coordinated use of CDOT's shared user platform. As I noted earlier, better usage of CDOT's shared information platform was one of the Conditions of the Commission's Reorganization Order. Because other public way users also rely on dotMaps in their planning processes, timely, accurate inputs are critical. All public way users have immediate, transparent access to PGL's plans and needs (as provided by PGL), as soon as the information is entered or maintained in dotMaps. Similarly, PGL has access to relevant planning and current construction activity information from other public way users, including the City (water, sewer, telecommunications, roadway repair, reconstruction or resurfacing projects, and special events affecting public way construction). Using dotMaps, public way users can coordinate their plans, schedules, and construction projects, without unnecessary CDOT intervention. Less than optimal

dotMaps participation is a lost opportunity for PGL to provide (and to get) a better picture of its AMRP/SMP activity, in the context of the other activity taking place in Chicago streets. It also can provide opportunities for operational cost savings, by working with other users to share restoration costs, and minimize impacts to recently resurfaced streets (moratorium streets, where degradation fees are required).

Incomplete information can increase the difficulty of coordination, and costs, for all users. Those Public Way users are not just utilities. Events requiring the use of the public way and other special events that will generate significant street traffic also are affected by construction related street closures, traffic constraints, and detours. Chicago residents are directly affected by street construction and detours, by delays that lengthen periods of inconvenience in their neighborhoods (e.g., posted No Parking signs, with no activity present), and by active work sites that may be dangerous, especially when not properly and timely restored. Chicago's aldermen have access to dotMaps and use it to plan their Menu projects (i.e., resurfacing projects, ADA ramps, lighting, etc.) and special events (i.e. block parties, runs, parades, etc.) so that they can properly communicate with their constituents.

Q. Have communications improvements between PGL and the City eliminated the coordination problems you described in your Docket 14-04946 testimony?

A. There have been significant improvements in coordination, but there are meaningful deficiencies remaining. CDOT still sees incidents that we thought could be substantially remedied by now. A review of a few recent incidents illustrates some of the problems

556 CDOT still encounters (too often) on PGL work in the Public Way. The first incident
557 illustrates continuing construction management inefficiencies that are costly for PGL and
558 its Chicago ratepayers. PGL recently restored an intersection (including ADA ramps)
559 for which a conflicting user project at that location had been identified. The dotMaps
560 platform routinely identifies such conflicts, to flag opportunities for cost-saving shared
561 work agreements among the users performing work at a common location. Here, a
562 cooperation agreement (MOU) proposed by PGL required the other user (CDOT), which
563 had a later project at the same location, to build the required ADA ramps as part of its
564 restoration work. PGL installed ADA ramps at the site, despite the pending MOU.
565 Moreover, the installed ramps were not compatible with the requirements of the later
566 CDOT project, which realigned the future curb placement (by adding a bump out).
567 CDOT will have to remove the PGL-installed curb and ADA ramps and construct new
568 curb and ADA ramps as part of its restoration work at that location. In this instance, PGL
569 lost an opportunity for cost savings (by avoiding the cost of expensive ADA ramps), due
570 to poor internal communication. Now CDOT has to reconstruct new ramps, duplicating
571 costs already incurred by PGL. Chicago residents are at risk for paying twice for this
572 avoidable redundant work. PGL must identify such communications gaps and close them
573 going forward. CDOT also will have to explain to the Alderman why local residents
574 were inconvenienced twice, for the same work.

575 In a separate recent incident, an Alderman's complaint about an uncompleted intersection
576 restoration prompted a flurry of e-mails among CDOT and PGL representatives to
577 resolve a problem that supposedly had been handled in advance through advance through

578 prior coordination among public way users. As in the incident just discussed, dotMaps
579 identified a conflict (during planning) between two users' projects in a particular
580 intersection. The users (per CDOT protocols) agreed on how the work in that
581 intersection would be handled, to avoid conflicting construction activity, duplicated
582 restoration work, and unnecessary expense. A detailed agreement on engineering
583 requirements and shared work assignments (MOU) was prepared. Months later, when the
584 users' planned construction was performed, the restoration work was not completed as
585 agreed. Ultimately, after an internal investigation, PGL determined that the timing of the
586 MOU exposed a PGL communications (document flow) failure and that the MOU had
587 not reached the contractor. The result was that PGL had to obtain a new permit to
588 complete the job, presumably after modifying its contract for that project (or re-bidding
589 the incomplete portion). There is no remedy for the extended inconvenience of an
590 unrestored site, suffered by local residents using the intersection. This incident suggests
591 that Liberty Consulting's recent recommended changes to PGL's management of permits
592 should be expanded to include recognition and tracking of MOUs, a routine part of the
593 permit coordination process, in PGL's construction management processes. Liberty
594 Fourth Monitoring Report, p. 63.

595 The final incident I will describe reflects quality control problems with some PGL
596 contractors. PGL's repair of a leak in one of its 30" mains required a street excavation.
597 Though the schedule for restoration of the street was coordinated with planned CDOT
598 work, the work by PGL or its contractor was not done to CDOT specifications, as defined
599 in the CDOT Rules and Regulations. A CDOT inspection revealed that the street surface

had not been properly restored; proper pavement was installed only after CDOT contacted PGL to report the incident. CDOT does not have the resources to perform quality control for all construction activities of public way users. Proper oversight should be performed by the permittee and records of such oversight are required to be provided to the City upon request.

Q. Are there other consequences of incomplete dotMaps input information respecting PGL's AMRP/SMP?

A. Yes, there are. First, coordinated scheduling is an issue when construction plans and status reports are not timely completed. Typically, CDOT will not receive an accurate full annual schedule of PGL's planned AMRP/SMP activity for the 2017 construction season until 2017, though planning for that season should be in progress now. Baseline phasing schedules at the neighborhood level are typically not provided until April of the calendar year when construction will occur. For 2016, the information that CDOT has received from PGL reflects specific requirements of PGL's agreement with the City and, more recently, requirements of the Commission's Interim Order. The scheduling information CDOT has received covers broad areas and uses very inclusive timelines -- that is, the plans are not specific enough for efficient project coordination and do not disaggregate the construction activities within a project. That lack of specificity and details continues to make coordination more difficult than necessary and can impose unnecessary costs on other entities. (One such incident is described in City-CUB Ex. 1.3)

Second, PGL's AMRP/SMP reports and schedules still do not accurately reflect its permit requests, permits granted, and work status. (The same difficulties occur with PGL's O&M work, which is subject to the same coordination and scheduling requirements.) For large scale programs like PGL's AMRP/SMP, which are not adequately defined by a limited number of permits, supplemental reporting may be needed to track overall program progress (for long-term planning), plan reliability (for operational efficiency), and work quality (compliance with permits and regulations).

Q. Have the results of PGL's efforts to improve performance in other areas matched its improvements from communications changes (including dotMaps)?

A. CDOT can see PGL's efforts to improve its practices and its willingness to work with CDOT to improve coordination and communication. However, based on PGL's actual construction performance during this construction season, non-communications improvements have not kept pace with results from communication enhancements.

Q. What performance areas are still problematic?

A. As I commented earlier, one broad area is permit processing and management. The full range of the permit process, though improved, still has some of the problems I noted last year in my Docket 14-0496 testimony. Permits are one of the fundamental tools of CDOT's management of activities affecting Chicago's Public Way. They are used to achieve coordinated transitions from one phase of work to the next. Such coordination could also be managed through dotMaps but CDOT often encounters less than complete reporting and CIP scheduling on dotMaps. As a result, project schedules are sometimes

defined by submitted permit applications, the terms of issued permits, and permit modifications based on the performance and status updates.

The City understands that, for legitimate reasons, PGL likely will never achieve perfect performance in its permitting and scheduling activities. More than most other users, PGL must respond immediately to emergency events that endanger public safety. (The City has special procedures for such situations -- specifically, PGL may begin emergency work without permits, CDOT accepts the permit application within the next business day after the event, and CDOT waives otherwise applicable fees.) However, given the scope and duration of PGL's AMRP/SMP, problems with even a relatively small percentage of PGL permit projects still results in a very large number of instances requiring labor-intensive responses from CDOT. CDOT has seen some improvement from PGL (especially in communications about problems that do occur), but more is still needed to reach acceptable construction performance levels.

Q. Earlier, you mentioned that CDOT confronted an increase in the volume of permit requests due to PGL's AMRP work. Has the City addressed PGL's complaints about getting permits issued?

A. To a significant extent, CDOT had addressed that issue by diverting resources to its permitting function when the increases first became problematic. In addition, an initiative (i.e. weekly permit meetings) directed specifically at that issue was one of the changes CDOT and PGL agreed to undertake this year, during the City's and PGL's discussions on implementing the Reorganization Order Conditions. Not every permit is

issued as quickly as public way users (including PGL) want. There sometimes are valid reasons why a permit is denied or why a request must be re-submitted with modifications or additional information. Some permit delays are simply a matter of priority. For instance, CDOT has delayed issuing permits for parkway restoration (replacement sod, etc.) that were requested during the winter, in favor of working on more immediate seasonal permit needs. I believe CDOT's performance in this area has been acceptable, and improving, but it is an issue that CDOT is monitoring and always looking to improve more.

Q. Are the later stages of the permit process now working smoothly for PGL?

A. After permits are obtained, PGL continues to have problems, with failures to work within permit periods being the most serious. CDOT and PGL have discussed the utility's efforts to meet permit deadlines, and CDOT has worked with PGL in that effort. As with every user, PGL has had unforeseen circumstances disrupt its schedules. Such occurrences are not a special concern for CDOT. However, recurring permit violations due to construction management or contractor failures *are* concerning, and PGL continues to experience instances where it has not completed its work within the permit period due to such causes.

Q. Are there other performance areas that remain problematic?

A. Yes. Another area is quality control on field work implementing PGL's AMRP/SMP. A large portion of AMRP/SMP work is done by PGL contractors. Too often, PGL's contractors have failed to follow applicable CDOT rules and regulations. PGL's record

of citations and fines reflects those failures. CDOT's regulations are easily accessible and should be familiar to any contractor doing work in the City.² However, as the permit holder, PGL is ultimately responsible for the conduct of its contractors. CDOT is not convinced that there is adequate monitoring and oversight of contractors' on-site performance. It is CDOT's regulatory responsibility to inspect work sites (both during and after work). But CDOT inspections are intended to verify compliance, not to provide quality control. Even when a corrections and completion items "punch list" is defined for a permit project, that remedial work also is too often delayed. (One "punch list" lingered unfinished for more than a year.)

Q. Are there other implementation problem areas the Commission should consider in assessing PGL's performance to revise the utility's accelerated main replacement program?

A. I believe the Commission should examine PGL's capacity to timely complete its planned AMRP/SMP construction at the pace PGL proposes in an efficient, cost-effective manner. CDOT's successful coordination of all Public Way users' activities depends on the reliability of the planning information they provide, including schedules and work locations. If PGL's (or any other user's) plans are not matched by a capacity to complete the scheduled projects, the programs or projects of other users, including CDOT, are at risk of disruptions in their own schedules. In its work to date, PGL has not demonstrated consistency in meeting the planned annual work goals it provides to CDOT.

² The CDOT Public Way construction regulations are available at https://www.cityofchicago.org/city/en/depts/cdot/supp_info/regulations_for_constructioninthepublicway.html.

703 There is a gap between the amount of efficiently performed, regulation-compliant work
704 CDOT has seen PGL complete each year and the annual amount of work PGL projects
705 for each future year, a pace of approximately \$250 million per year. PGL's difficulties in
706 reliably completing its planned construction are reflected in (a) the number of permit
707 extensions and new permits requests for projects not completed within prior permit
708 periods and (b) the work planned for one year that PGL has carried over to the following
709 year. I describe CDOT's experience with PGL's permit performance in my review of
710 CDOT-PGL communications and in City-CUB Ex. 13. City-CUB Ex. 1.3 recounts
711 several instances where permit projects were not completed within the allowed period or
712 required CDOT intervention in the permitting process.

713 PGL's carry-over performance is another indicator of PGL's construction capacity that
714 the Commission should examine. At the start of 2016, CDOT's CIP records indicate
715 PGL had carried over unfinished work on 160 permits issued for work in 2015. That
716 unfinished work joined work on 189 permits from 2014 and 23 permits from 2013.
717 (Almost one-half of PGL's 2014 permits had unfinished work at the end of the year.) In
718 accordance with the CDOT public way construction regulations, projects carried over
719 from one year to the next are supposed to be cleared by May 31st of the following
720 construction season. This year, CDOT granted PGL a 30-day extension of this
721 requirement as a good faith measure. However, by July of this year, PGL had reduced its
722 backlog of 721 carried-over permits only by about half. (PGL states it also has advanced
723 some projects originally planned for 2017 into 2016.)
724

	<u>Jul 2016</u>	<u>Feb 2016</u>	<u>Jul 2015</u>
2013 Permits Carried Over	19	23	42
2014 Permits Carried Over	135	189	458
2015 Permits Carried Over	26	160	0
Total Permits Carried Over	341	721	958

Much of PGL's carry-over work was related to restoration of Public Way work sites.

While PGL's utility work may have been completed, nearby residents and users of the affected Public Way experienced continued inconvenience or safety risk until the work sites were restored. In addition, permit work that has not been completed may create lingering location conflicts than prevent planned work by other users. Additional detail on PGL's carry-over history is shown in City-CUB Ex. 1.4.

Q. Have you identified factors that, in your opinion, may have contributed to PGL's failure so far to achieve anticipated performance improvements?

A. While I do not have access to PGL's internal management information, from CDOT's work with PGL, a few factors stand out. First, it appears that PGL has not yet fully incorporated the information available through dotMaps into its planning and scheduling processes. Second, though City-PGL communications have improved, it appears that complete information may not be getting to PGL's contractors in a timely way. Third, the PGL performance metrics and reporting visible to CDOT do not enable data analysis that can pinpoint weak points and guide rapid improvement in its coordination and construction management practices. Some improvement lag during the process of ramp-up to required changes is expected, but the ramp-up has been slow and is still incomplete.

PGL's PROPOSED PERFORMANCE METRICS AND REPORTS

Q. Before discussing the specific monitoring and reporting requirements PGL proposes, reviewing the baseline requirements to which you compared PGL's proposals would provide context. Describe first the Interim Order's monitoring and reporting recommendations.

A. Robust monitoring and reporting are necessary and fundamental elements of any meaningful revision of PGL's AMRP/SMP implementation. The Interim Order noted the development of interim and long-term monitoring and reporting requirements as focal points in two of the three parts of Staff's recommended revision process. One is the development of interim reporting and monitoring allowing the Commission and stakeholders to monitor the Program. The other is the development of near and long-term reporting and monitoring. Interim Order, p. 2.

The Interim Order reflected the Staff Report's findings regarding stakeholder positions on reporting requirements. I agree with the observation in the Staff Report, the foundation for the Interim Order, that appropriate monitoring and reporting are important at all stages of the AMRP/SMP. I also agree with Staff's conclusion that "transparent and timely reporting and monitoring" is "[k]ey to determining the effectiveness of the pace, scheduling, cost, and safety and reliability implications." As Staff's Report notes, the workshop stakeholders "agreed that a reporting/monitoring program is required to provide timely and accurate updates on the program's progress to the Commission and stakeholders." Staff's specific recommendations were defined by its reference to Chapter V of the Liberty Final Report, presumably including that chapter's appendix.

758 Staff Report, pp. 62. I have attached the Commission's auditor's guidance on metrics
759 and reporting to this testimony as City-CUB Ex. 1.5.

760 **Q. Describe the Commission's most recently expressed position on monitoring and**
761 **reporting for PGL's AMRP/SMP.**

762 **A.** The Commission's Interim Order took the recommendation of the Staff Report that a
763 monitoring and reporting regime be established until a more permanent set of
764 requirements is developed. In its Interim Order the Commission adopted the full slate of
765 reporting requirements Staff included in its report. Those requirements are significant
766 improvements in the required AMRP/SMP performance and oversight metrics and
767 reporting. The increase in the level and transparency of the required metrics reporting is
768 a welcome movement toward metrics and reporting recommendations the City has made
769 consistently for the AMRP/SMP. (See City testimony and briefs in PGL's
770 Reorganization Case, City Workshop participation, and City Responses to Staff
771 Questions). As the Staff Report observes, "parties agreed that a reporting/monitoring
772 program is required to provide timely and accurate updates on the program's progress to
773 the Commission and stakeholders." (Staff Report, p. 20)

774 **Q. How did the Commission's Interim Order implement the monitoring and reporting**
775 **recommendations of the workshops stakeholders?**

776 **A.** The recommendations of Staff and PGL's ratepayer/employee stakeholders were
777 presented in the Staff Report. As adapted by the Interim Order, the recommendations
778 accepted by the Commission are included in City-CUB Ex. 1.6 (City's Recommended

Reporting Requirements). It appears that the Commission heard and considered the stakeholder concerns expressed in the workshops, and incorporated that input in developing its requirements. The workshops very were useful in that respect.

The Commission also ordered that the required reports be available to all stakeholders through filings on the Commission's e-Docket system. That availability is important for Chicago residents (PGL's ratepayers), who have a special stake in both the safety of the PGL system and the cost effectiveness of its AMRP/SMP construction. The Interim Order requirements are similar to the reporting regime the City proposed in the Reorganization proceeding. The monthly reports required by the Interim Order already have been useful to CDOT in monitoring the effectiveness of PGL's AMRP/SMP revisions on the utility's performance during the 2016 construction season. The City recommends that monthly, quarterly, and annual reports be continued during any transition period and throughout program implementation. A reversal of reporting now cannot be justified, as PGL's program implementation has not yet achieved a stable, acceptable level of performance.

Q. What position has Staff taken regarding the Commission's Interim Order reporting requirements?

A. Though the Commission stated that it accepted all of Staff's recommendations, Staff may not view the Interim Order's specific requirements as an adaptation of its recommendations in the Staff Report. Staff declined the City's request for comments or clarifications on the Interim Order requirements. City-Staff DRR 3.1. A comparison of

the Interim Order requirements (pp. 2-4) and the Staff Report's detailed reporting recommendations (pp. 62-63) shows substantial similarities. However, the principles Staff recommended that the Commission use to establish reporting requirements (a) are based in part on the recommendations of the Commission's auditors, (b) were clearly applied in the Interim Order, and (c) support the City's consistent position seeking more effective monitoring, metrics, and reporting. The Interim Order requirements should be the starting point for the Commission's development of a monitoring, metrics, and reporting program for PGL's implementation of the plan the Commission approves in this proceeding.

Q. What are the pertinent findings or recommendations of the Commission's auditors respecting monitoring, metrics, and reporting?

A. First, at the level of PGL's overall reporting scheme, PGL's use of Rider QIP reports as the centerpiece of reporting and review for the Commission is explicitly condemned by the Liberty Consulting Final Report.

Peoples Gas also submits monthly and annual filings reporting on the Qualifying Infrastructure Plant Surcharge. The first annual filing came in April 2014. These reports do not provide (nor does their intent include) material suitable to meet Illinois Commerce Commission cost and schedule monitoring. Liberty Final Phase 1 Report, p. V-1.³

A number of Liberty Consulting's recommendations and sample reports appear to assume the existence of a long-term plan with initial total cost and duration

³ The report suggests further disaggregation: "The Company manages replacement work in common with work to increase system pressure and to relocate meters from inside to outside locations. The reporting addressed in this document needs to cover the AMRP alone. Peoples Gas must disaggregate information to exclude information addressing these other sources of work and expenditure, which the Qualifying Infrastructure Plant Surcharge now addresses." Liberty Final Report, p. V-11.

823 benchmarks. If the Commission accepts PGL's proposal for a series of short-term
824 plans, the reporting program would require appropriate modifications.

825
826 **Q. Have you reviewed PGL's proposed reporting requirements?**

A. Yes, I reviewed the testimony of Mr. Andrew Hesselbach, along with his sponsored exhibits, to learn what specific data PGL proposes to collect and report. Although the utility is providing the reports required by the Interim Order, PGL does not propose to continue those reports. Accordingly, my testimony assumes that the omission was intentional and that PGL proposes to terminate reporting not adopted or proposed in its testimony. As I understand the utility's proposals, PGL is asking the Commission to accept a reduction in performance metrics tracking and performance reports from the recommendations of the Commission's AMRP auditors, Staff's workshop report, and the requirements adopted in the Commission's Interim Order. In my view, that approach -- less performance tracking and reporting -- moves in the wrong direction. The lessons of CDOT's front line experience with AMRP implementation support the need for more and better performance monitoring and reporting.

827 **Q. What are the main elements of PGL's proposed reporting regime?**

828 A. The best case reading of PGL's testimony on this topic is that it is a too brief summary of
829 PGL's workshop position, which is actually more detailed and expansive than the
830 proposal in Mr. Hesselbach's testimony. As recounted in the Staff Report, PGL
831 expressed the following positions on the metrics and reports it proposed to provide. .

832 In addition to the information the Commission already receives about
833 AMRP in the monthly Rider QIP filings, the annual Rider QIP

834 reconciliation filing, the annual QIP plan update, and in periodic rate
835 cases, and in addition to the annual update of the B&M cost model that
836 Peoples Gas committed to provide in its November 30 submission,
837 Peoples Gas proposes to provide the Commission with the following
838 AMRP performance metrics on a biannual basis every June 30 and
839 December 31: To measure cost effectiveness, Peoples Gas will provide
840 cost data on main installed (\$/mile), services installed (\$/each), meters
841 installed (\$/each) and main retired (\$/mile) for each QIP category (i.e.,
842 Neighborhoods, Public Improvements/System Improvements, High
843 Pressure, Transmission, and, if any, Other QIP-eligible work that does not
844 fit in the preceding categories). To measure schedule effectiveness,
845 Peoples Gas will provide work progress data on main installed (miles),
846 services installed (number), meters installed (number) and main retired
847 (miles).

848
849 This favorable reading of PGL’s proposal resembles the report format PGL
850 adopted to meet the Interim Order requirements. That level of performance
851 reporting is an attempt to inform the Commission of program status and basic
852 productivity ratios. However, the implementation inefficiencies CDOT sees
853 regularly cannot be addressed effectively without more functional metrics and
854 reporting.

855 **Q. Are there any elements missing from PGL’s proposal or the Interim Order**
856 **requirements that would provide important, useful information about PGL’s**
857 **implementation of the plan the Commission ultimately approves?**

858 **A.** PGL’s testimony mentions only two reports per year, and the content of those reports is
859 not detailed. Despite PGL’s assertion that it will be “transparent about the progress and
860 course of the SMP,” the utility does not propose any meaningful steps to make
861 transparency a reality. In its discovery responses, PGL has refused to support its claimed
862 goal of transparency by providing even descriptive language for specific metrics or report

elements that it intends to provide. PGL instead is shifting responsibility for its asserted commitment to transparency to the Commission, letting the Commission determine what review process is appropriate. PGL-City DRR 2.08. PGL also declined to opine on the adequacy of Rider QIP reconciliation proceedings for meaningful reviews of its AMRP/SMP implementation performance, again deferring to the Commission to determine the required level of reporting. PGL-City DRR 2.17. Despite its claimed commitment to transparency, PGL also does not confirm the Interim Order's e-Docket filing requirement. PGL-City DRR 2.18. PGL's surprising rejection of the improvements in transparency and meaningful reporting already adopted in the Interim Order would not provide adequate monitoring of PGL's largest ever (\$250M per year, and billions in total) investment program. Implementation of the program will require years of public way construction and constant CDOT interaction, but CDOT access to PGL's reports is not assured under PGL's proposal. Reports to the Commission or Staff are not automatically and timely available to other stakeholders, including CDOT. I discuss the City's recommendations for adequate metrics and reporting later in this testimony.

Q. In your opinion, is PGL's suggested reporting sufficient at this stage of PGL's AMRP/SMP implementation?

A. No, I do not believe it is. PGL's plan, performance, and reporting are all in developmental phases. The Commission cannot prescribe a course of implementation and passively hope for the best regarding any aspect of the program. At this point, the available performance reports do not allow a firm

885 diagnosis of the root causes of PGL’s remaining deficiencies. Active monitoring
886 and reporting will be required to guide the development of program elements.
887 The Commission’s auditors recognized the essential functions of oversight and
888 performance reporting, distinguishing such reports, which facilitate management
889 or oversight of the program, from reports “that exist simply to keep people
890 informed.” Liberty Final Report, p. V-3. The auditors also acknowledged that
891 different metrics and reports could be needed at various points in the program,
892 depending on the information priorities of the Commission and stakeholders.

893 Until PGL has achieved a stable, acceptable level of performance, PGL’s
894 reporting must be more functional. Current reporting apparently has not been
895 effective in guiding the utility to efficient, cost-effective AMRP/SMP
896 implementation. As Liberty Consulting advised: “The AMRP requires regular
897 and comprehensive performance reporting and analysis. These tools provide the
898 basis for determining the degree to which performance meets cost, schedule,
899 quality, and safety risk mitigation objectives and targets.” Final, B-14.

900 **Q. What is missing from the current reporting regime for PGL, which includes the**
901 **Interim Order requirements?**

902 **A.** First, there is insufficient detail on PGL’s implementation performance -- how well it is
903 done, not just how much and when. PGL’s performance reports should be “regular and
904 comprehensive.” Second, the need for timely information during this transition period
905 requires more frequent opportunities to respond to new information and analytical

906 insights. More frequent detailed reports also would provide data to establish performance
907 baselines more quickly. If changes to enhance efficiency and cost-effectiveness are to be
908 driven by results, performance refinements must be pursued as construction season data
909 come in, not wait until the following year. Third, the proposed reporting regimes do not
910 incorporate Liberty's advice that when performance is not up to par, "analysis of root
911 causes and corrective actions become necessary to optimizing performance, either
912 through prompt adjustment of objectives and targets that have become unrealistic as time
913 passes, or through measures to improve the ability to perform up to expectations." Since
914 analysis is difficult if the correct information is not collected and reported in the first
915 instance, better monitoring, metrics, and reporting will be required before this necessary
916 oversight component can be included. If metrics are not well-defined and retained in real
917 time, cost considerations will likely be advanced as a reason not to reject a retrospective
918 development of data for analysis. Finally, the City puts special emphasis on safety. The
919 fundamental reason for accelerating PGL's main replacements -- reducing the risks
920 related to the number and severity of gas leaks, cost-effectively -- is not routinely
921 reflected in PGL's AMRP/SMP reporting. Metrics capturing PGL's achievements in
922 reducing the number of gas leaks, the volume of escaping gas, or some measure of safety
923 improvements would capture the intended benefits of PGL's accelerated investment for
924 the general public. Results on these metrics (and costs) are the tests of whether PGL's
925 infrastructure work is achieving its stated goal and is delivering value to ratepayers.
926 Current reports do not contain enough information to verify that these risks are being
927 reduced through PGL's AMRP/SMP expenditures. A brief paragraph from Liberty's

report summarizes the proper roles of monitoring, data collection and analysis, and reporting, as part of a program plan.

Liberty particularly emphasizes the need for AMRP program and project reporting to improve in fundamental ways. The Company's data collection does not support a sharp and well-supported analysis of key program cost and schedule drivers. The existence of a suitable, well-informed analysis of those drivers comprises an essential element of best practice. It will take substantial skills additions, data collection, and reporting changes, and a commitment to continuous performance analysis to make this element an effective component of AMRP management, control, and oversight. Developing the required analytical capability should be a major priority. Final ES-2.

Those words still apply more than a year after Liberty provided its report to the Commission and PGL.

Q. How did you evaluate the adequacy and utility of the reporting requirements proposed by PGL?

A. My evaluation of PGL's proposed reporting regime assessed its adequacy by first comparing it to the performance metrics and reporting regime the Commission deemed appropriate in its Interim Order. Second, because the Commission is considering new plan designs (including PGL's series of short term plans), I examined whether the metrics and reporting provide the information and review opportunities that match the dynamics of PGL's proposed short-term plans, of a longer term plan like PGL's original one, or of some combination of elements the Commission determines. Third, I looked at the current requirements from CDOT's unique perspective and asked whether it includes the metrics reporting CDOT has found necessary for efficient coordination and oversight of PGL's work in Chicago's Public Ways.

My assessment incorporated CDOT's front line experience trying to evaluate the effects of PGL's recent practice changes during the current construction season. The most striking aspect of that experience was seeing first-hand how difficult it is to conduct meaningful evaluations without proper data. The Liberty auditors made the point in their report that PGL's collection of needed data was deficient. CDOT's experience this season has confirmed the need for better collection and reporting of the right kind of data. Both CDOT and PGL need information to make the changes needed in their respective practices to become more efficient and cost-effective. CDOT's current experience with PGL's limited performance metrics reporting is a uniquely valuable basis for assessing the relative effectiveness of PGL's and the City's recommended metrics reporting regimes.

Q. What is the City's position on appropriate metrics, monitoring, and reporting for PGL's AMRP/SMP?

A. The City has consistently advocated that the Commission require better metrics and more transparent reporting. CDOT's front line experience with the conduct of PGL's AMRP/SMP demonstrates the utility of effective reporting. CDOT has found that the new reports under the Interim Order's expanded (though still inadequate) requirements have been useful. The Interim Order reflected the consensus of the workshop stakeholders that better data collection and reporting were needed. Informed data-driven analysis and program implementation will require even better monitoring, metrics, and reporting.

976 **Q. Why is it important to adopt enhanced monitoring, metrics, and reporting now?**

977 **A.** This is a period of change and transition in PGL's AMRP/SMP. The effectiveness of
978 either PGL's proposed new approach and PGL's revised implementation practices have
979 not been proven over even one full construction season. This is not the time to stop
980 monitoring and refining PGL's infrastructure plans and performance. The Commission is
981 trying to define the appropriate scope and schedule for PGL's accelerated infrastructure
982 program, and to establish a reporting program to monitor and control the program's
983 performance and costs. Functional reporting is essential to inform the Commission's
984 determinations on program/plan design, on assessments of PGL's implementation
985 performance, and to identify planning or practice changes that can move PGL's
986 performance toward greater efficiency and cost-effectiveness.
987 The Commission should not reduce the reporting requirements of the Interim Order. In
988 fact, the City proposes refinements of those requirements, drawn from its experience with
989 implementation activities.

990 At a minimum, the Commission must maintain the performance metrics reporting of the
991 Interim Order as an integral component of any AMRP/SMP plan approved by the
992 Commission. The City also proposes to augment the Commission's requirements with
993 the specific additional/modified metrics and requirements detailed in my testimony and
994 exhibits. Regular review and analysis of required AMRP/SMP performance outside
995 reports is equally important. Passive oversight is insufficient to guide PGL's

996 implementation practices toward efficient, cost-effective practices that improve public
997 way construction coordination and reduce costs to Chicago residents.

998 **Q. Please explain the specific metrics and reporting elements the City proposes.**

999 **A.** First, I must note that PGL appears not to include continuation of the Interim Order
1000 reporting requirements in its proposal for going forward. The City strongly urges the
1001 Commission to make its Interim Order requirements the minimum program of reporting
1002 during the long term implementation of PGL's infrastructure program. The City's
1003 modifications can improve the usefulness of what the Commission has ordered, and they
1004 have special relevance to this formative period of PGL's infrastructure planning.

1005 City-CUB Ex. 1.6 presents the City's proposed metrics, report schedules, and reporting
1006 procedures. That outline of metrics and reports is based on the requirements of the
1007 Commission's Interim Order and the Commission's recognition of the need for more
1008 functional performance metrics and for transparent reporting. The availability of
1009 enhanced reporting will enable the Commission (and other stakeholders) to conduct
1010 informed reviews of PGL's plans and plan implementation. The Commission's auditor
1011 and workshop stakeholders have vigorously advocated for the collection, reporting, and
1012 analysis of functional performance metrics. Those data (properly used) can guide
1013 modifications of PGL's plans and practices, to enhance efficient and cost-effective
1014 implementation.

The City's recommended monitoring, metrics, and reporting program is shown in City-CUB Ex. 1.6. Additional metrics were added to the Interim Order reports, to fill information gaps CDOT encountered during its effort to assess PGL's 2016 construction season performance under PGL's revisions to its accelerated infrastructure program. The proposed additional information elements are in **bold** text in the exhibit. Immediately below, I have listed the new reporting obligations the City proposes, with a brief statement of the reason for the inclusion of each item.

- *e-Docket filing* -- Meaningful transparency requires timely access to performance data, without the delay or uncertainty of seeking Commission Staff release of reports.
- *Continuing Reports* -- PGL's performance is not yet stable at an acceptable level. Benchmarks have not been established through actual results. PGL's massive accelerated investment must be monitored for operational efficiency (avoiding disruptions for other Public Way users) and cost-effectiveness (for ratepayer protection).
 - ◆ *Monthly Reports* -- PGL is still in transition from troubling implementation performance through untested program and practice changes; result-guided adjustments can be identified and implemented quickly, while stable efficient performance is pursued
 - ◆ *Quarterly Reports* -- Less time sensitive information is collected and reported without having to lose an entire construction season to consider corrective action
 - ◆ *Annual Reports* -- Projections and schedule for each calendar year; coordination requires planning ahead of each construction season
- *Block by Block Sequence* -- To coordinate Public Way activities for a construction season, location specificity is essential. Scheduling at a broad neighborhood level does not provide sufficient detail to coordinate PGL's Public Way activities. The Commission needs this information to get an accurate picture of PGL's performance, since neighborhood sequences can remain unchanged even if projects within the neighborhood are poorly planned and executed and individual projects schedules are not met
- *Breakout Detail* -- Many of PGL's capital costs are for materials. Tracking unit costs, as the Commission's auditors suggest, is a good way monitor the appropriateness of aggregated costs.

- *YTD Tracking* -- Accumulating annual data as the year progresses mimics the Interim Order requirement, reveals performance trends, and allows the December report to serve as an annual roll-up of the year's data.
- *Leak Repair Timelines* -- Reducing pipeline leaks and risks are objective of the accelerated replacement program, but results and performance in this area are not tracked and reported. Tracking the achievement and efficiency of the accelerated investment program's prime objectives is an essential monitoring task.
- *Isolate PGL Performance* -- PGL's performance metrics should not reflect unavoidable circumstances that reduce PGL's operational and cost efficiency. Schedule changes due to public improvement, etc. (COSPISE) are not attributed to PGL.
- *Re-Sequencing Justifications* -- PGL should articulate its reasons for disruptive changes, which would guide planning and performance and avoid unreasonable changes (and costs) for PGL and other Public Way users.
- *Permits Tracking* -- The importance of tracking the various aspects of CDOT's permit process is discussed at length in this testimony. These data items can provide a valuable perspective on PGL's implementation performance.

The Commission's Interim Order reporting requirements were a response to PGL's past performance and the enormity of the program and its costs. PGL's Commission-approved program, which will be very expensive for Chicago residents/ratepayers, was justified as an accelerated removal of high-risk facilities. PGL's performance in achieving the risk objectives efficiently and cost-effectively cannot be monitored unless the metrics for those particular tasks are recorded and reported separately from other infrastructure work. Accordingly, reported metrics should be tracked and reported separately, the results of PGL's investment should be evaluated against the program objectives (i.e. providing an asset management approach to reductions in pipeline leaks and the risk of catastrophic pipeline failure).

1083 **Q. Does the City have a position on PGL’s proposal to replace a comprehensive**
1084 **program plan with a series of “rolling” short -term (three-year) plans?**

1085 **A.** The City does not take a “For” or “Against” position on PGL’s proposal, but the
1086 reporting requirements in any program are important. The City does not see the
1087 Commission’s choices in this case as (a) a series of short-term plans or (b) a single long-
1088 term plan, with each having the disadvantages of its uncompromised purity. The
1089 Commission can combine elements from short and long term plans. A balanced plan can
1090 avoid, respectively, (a) short-term planning details unconnected to an overall structure
1091 with benchmarks or (b) a coherent structure (with base lines and benchmarks) that relies
1092 on speculative long-term projections. For the City, the planning periods used are less
1093 important than maintaining PGL’s focus on the safety and reliability objectives of the
1094 program -- replacement of high-risk infrastructure in Chicago, efficiently and cost-
1095 effectively. Operationally, CDOT can accommodate short term or long term plans (or a
1096 combination of elements), but only if appropriate monitoring, metrics, and reporting are
1097 incorporated. As the Staff Report recommended, the applicable monitoring, metrics, and
1098 reporting regime must “be designed to match the pace and design of the program.” Staff
1099 Report, p. 20. Appropriate reporting is needed to monitor PGL’s investments under
1100 apparent refocus of its infrastructure program from risk-prioritized, accelerated
1101 replacement of vulnerable mains to modernization of broader (not risk-based) categories
1102 of plant investment. Liberty Consulting commented on this issue:

Peoples Gas must disaggregate information to exclude information
addressing these other sources of work and expenditure, which the
Qualifying Infrastructure Plant Surcharge now addresses. Liberty Final
Report, p. V-10.

1107 In other words, the performance metrics and reports on PGL's risk-based accelerated
1108 investments must be broken out from reports on other Rider QIP eligible investments, not
1109 commingled.

1110 **CITY-CUB RECOMMENDATIONS**

1111 **Q. Have you identified further, specific changes that the Commission should consider**
1112 **as part of any long-term plan approved in this case?**

1113 **A.** Robust performance reporting that maintains distinguished uniquely justified costs from
1114 routine infrastructure investment. (Even if reports not disaggregated, PGL must maintain
1115 ability to provide breakout of commingled costs and risk-guided investment performance

1116 **Q. Please summarize the City-CUB recommendations to the Commission that are**
1117 **supported by your testimony.**

1118 **A.** *PGL Construction Coordination and Performance*

- 1119 • Communications has been an aspect City-PGL coordination processes that got early
1120 emphasis. There has been improvement in PGL's construction coordination,
1121 principally in management communication between CDOT and PGL. Response
1122 times and the quality of response are noticeably improved.
- 1123 • However, communications often remains too reactive (to resolve problems), instead
1124 of proactive (to prevent problems).
- 1125 • CDOT is uncertain as to whether PGL has taken full advantage of (a) the
1126 opportunities dotMaps creates for sharing costs (e.g., restoration MOUs) or saving
1127 costs (avoiding planning conflicts) or (b) the available planning information that

- 1128 could provide a better grasp of other users activities that may impact PGL’s
1129 schedules.
- 1130 • PGL’s plans challenge its ability to complete permitted projects on schedule and
1131 within permit limits. Schedule changes are not reflected in the timing and accuracy
1132 of PGL’s permit requests.
 - 1133 • Field management continues to be an issue. Too often in CDOT’s compliance
1134 inspections, CDOT personnel discover work in progress, finished work, or permit
1135 sites that should have been restored that are not in compliance with applicable CDOT
1136 regulations or permit terms.
 - 1137 • There are continuing issues with PGL contractors that do not consistently follow the
1138 CDOT Rules and Regulations, do not adhere to permit conditions, or work without a
1139 permit. The nature and frequency of such occurrences raises questions about PGL’s
1140 quality control.
 - 1141 • A significant amount of permitted PGL construction is not completed on time. Work
1142 is often not being completed in the 90-day capital construction permit period.
1143 Average actual performance completion exceeds 120 days. CDOT experiences
1144 frequent PGL requests for permit extensions or permit renewals, and must coordinate
1145 and reschedule unfinished permit work carried over from prior years. Even when
1146 finishing work has been rescheduled, CDOT has dealt with final “punch lists” that
1147 linger for long periods.
- 1148 *Monitoring, Metrics, and Reporting*
- 1149 • Current reporting is not sufficient given the size of PGL’s significant (\$250 M/year),
1150 long term investment program.

- 1151 • The proposed metrics and reporting program set out in City-CUB Ex. 1.6 should be
1152 adopted by the Commission.
- 1153 • PGL’s performance should be monitored over 2 consecutive construction seasons –
1154 with the proposed metrics collected, reported, and analyzed -- in order to establish
1155 base line costs, quantities, and schedules. This should occur regardless of whether the
1156 Commission adopts PGL’s proposal to implement rolling three-year SMP plans.

1157

1158 **Q. Does this conclude your direct testimony?**

1159 **A. Yes.**

1160